

Abstract

Linear arrays of chemosensors or chemical compounds are supported by an optical fiber that allows one to rapidly assay the entire array using changes in optical properties such as fluorescence. The location of the agent along the fiber determines the identity of the agent in these linear arrays. Combinatorial libraries may be constructed on the fiber as well as assayed on the optical fiber. A system and method of analyzing the entire array of agents on an optical fiber using a light source, an optical fiber, and a detector are also described. The time delay between the excitation and detection determines the location being assayed along the fiber and therefore the identity of the agent being assayed. The present invention may find uses in the medical, pharmaceutical, environmental, defense, and food industries.

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